

**ANOCHETUS BREVIDENTATUS, NEW SPECIES, A
SECOND FOSSIL ODONTOMACHITI ANT
(HYMENOPTERA: FORMICIDAE)**

WILLIAM P. MACKAY

Department of Biological Sciences, The University of Texas,
El Paso, Texas 79968

Abstract.—I describe the new species *Anochetus brevidentatus* from Dominican Republic amber, possibly deposited 30–40 million years before present. This species is a member of the *emarginatus* species group and the *haytianus* superspecies. It is closely related to the extant *A. kempfi*. I present characters for distinguishing this ant from the others in the *haytianus* superspecies.

Recently we have seen a rapid growth of knowledge of ants of the Dominican Republic amber, due primarily to the work of Baroni-Urbani and Wilson (see Wilson, 1988 for references). One of these new species, *Anochetus corayi*, was recently described by Baroni-Urbani (1980). In this paper, I describe a second species in the genus *Anochetus* from Dominican amber.

***Anochetus brevidentatus*, new species**

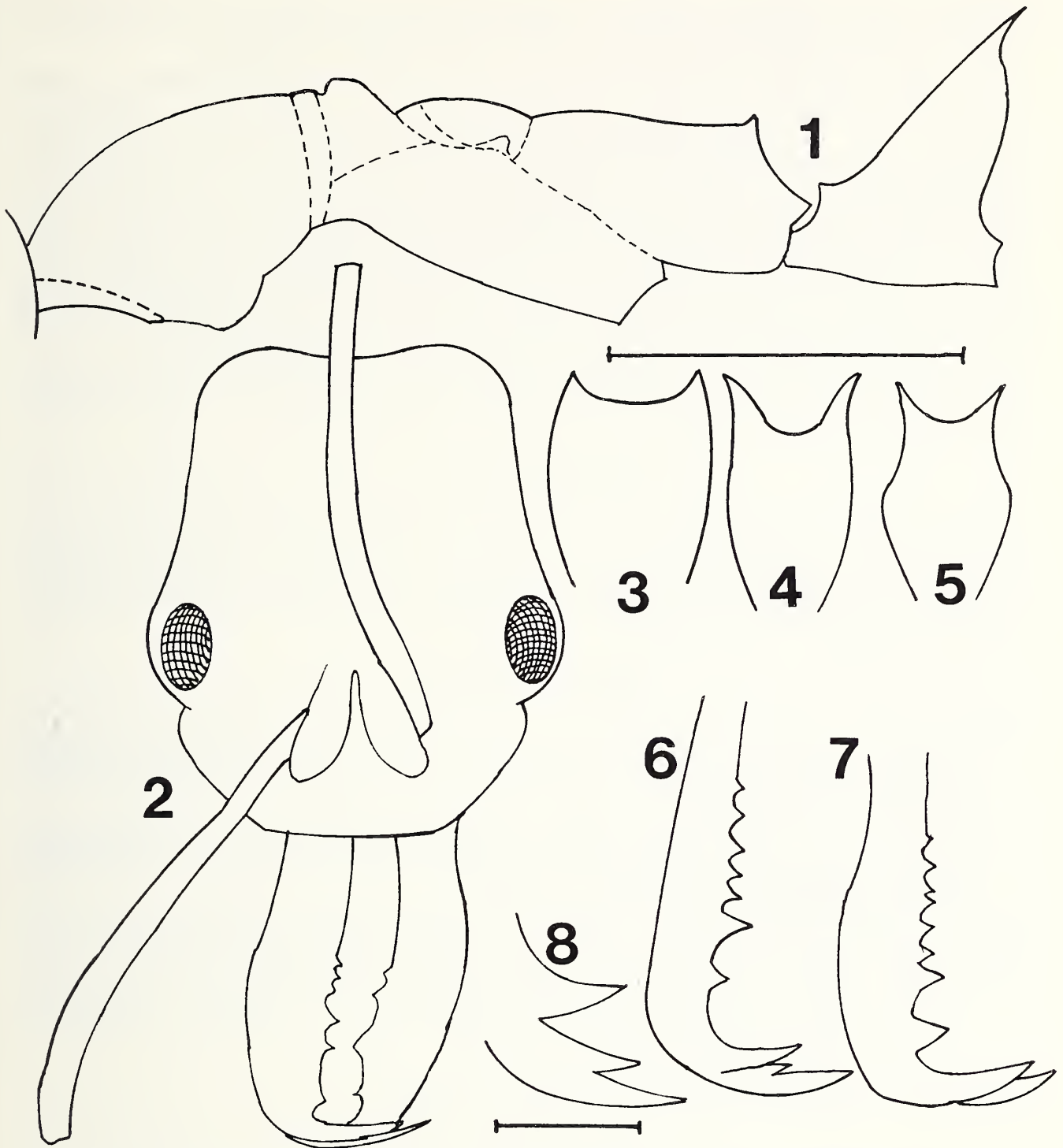
Figs. 1, 2, 3, 8

Diagnosis. This species is closely related to *A. kempfi*. It differs in that the mandibular teeth are smaller (Figs. 2 and 6), the teeth on the petiolar node are much smaller (Figs. 3 and 4), the mandibles are enlarged in the middle (as in *A. haytianus*—Fig. 7) and it is smaller than *A. kempfi*. It can be easily distinguished from *A. haytianus* and *A. longispina* as the teeth on the node of the petiole are much smaller (Figs. 3 and 5) and it has teeth on the propodeum, which are absent on the latter species.

Description of worker: HL 1.34, HW 1.20, SL 1.40, ML 0.90, EL 0.2, WL 2.08 (abbreviations as in Brown, 1978, measurements in mm). Mandibles with three apical teeth (Fig. 8) in addition to six smaller teeth along mesial border (Fig. 2), mandible slightly thickened at one half length of mandible; eye appears to be relatively small (not easily seen in specimen); mesosoma similar to that of *A. kempfi*, anterior edge of mesonotum higher than level of pronotum; propodeum with pair of well developed spines, directed vertically (Fig. 1); anterior face of petiole almost flat (in profile), posterior face convex, node bidentate, teeth relatively small (Fig. 3). Erect hairs sparse, present on mandibles, dorsum of head, pronotum and gaster. Sculpture fine, parallel striae on most of mesosoma; gaster smooth and shining.

Female and male: Unknown.

Discussion. This species is a member of the *emarginatus* species group, defined by Brown (1978) as species of large size and slender build, mandibles serially dentate, and petiole bidentate. It shows some affinities with the *inermis* group of the genus, as it has relatively small eyes, teeth on the node, and the denticular configuration is



Figs. 1–8. *Anochetus* spp. workers. 1. *A. brevidentatus*, mesosoma and petiole. 2. *A. brevidentatus*, full face view of head. 3. *A. brevidentatus*, anterior face of petiole. 4. *A. kempfi*, anterior face of petiole. 5. *A. haytianus*, anterior face of petiole. 6. *A. kempfi*, right mandible. 7. *A. haytianus*, right mandible. 8. *A. brevidentatus*, apical mandibular teeth (from below). (Scale: Figs. 1–7 line equals 1 mm, Fig. 8 line equals 0.25 mm.)

similar to species in this group. The mesonotal outline is also similar to species in the *inermis* group. It is smaller than other species in the *emarginatus* group and could be identified as a member of the *inermis* group using Brown's key (1978). It is a member of the *haytianus* superspecies, defined as those species with six–nine teeth and denticles on the medial border of the mandible. This superspecies is found only in the West Indies, and includes *A. haytianus*, *A. kempfi*, *A. longispina* and *A. brev-*

identatus. The *emarginatus* and *mayri* species groups (to which the fossil species *A. corayi* belongs) are both represented in the recent fauna of Hispaniola.

Type series. Single holotype worker from the DOMINICAN REPUBLIC, La Toca Mine near Las Aguitas, imbedded in amber, which I purchased from America S. A., Calle Z, No. 5 (NACO), P.O. Box 429-2, Santo Domingo, Dominican Republic. It is deposited in the Museum of Comparative Zoology, Harvard. The specimen is well preserved, in a clear brown amber matrix. The left mandible is somewhat twisted and the right antenna is missing the funiculus. Known only from the holotype. This amber is of the oldest and hardest in the Dominican Republic, and reported to be 30 to 40 million years old (Lambert et al., 1985). The age of this specimen is based on the presumed rate of methyl radical decay and may be questionable.

Etymology. From Latin, referring to the short teeth on the petiolar node, a character which separates it from all others in the superspecies *haytianus*.

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LITERATURE CITED

- Baroni-Urbani, C. 1980. *Anochetus corayi* n. sp., the first fossil Odontomachiti ant (amber collection Stuttgart: Hymenoptera, Formicidae. II: Odontomachiti). Stuttgarter Beiträge zur Naturkunde 55:1-6.
- Brown, W. L. 1978. Contributions toward a reclassification of the Formicidae. VI. Ponerinae, tribe Ponerini, subtribe Odontomachiti. Section B. Genus *Anochetus* and bibliography. *Studia Entomologica* 20:549-638 + 12 plates.
- Lambert, J. B., J. S. Frye and G. O. Poinar. 1985. Amber from the Dominican Republic: analysis by nuclear magnetic resonance spectroscopy. *Archaeometry* 27:43-51.
- Wilson, E. O. 1988. The biogeography of the West Indian ants (Hymenoptera: Formicidae). *In*: J. K. Liebherr (ed.), *Zoogeography of Caribbean Insects*. Comstock Publishing Co., Cornell Univ. Press, Ithaca, NY, pp. 214-230.

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